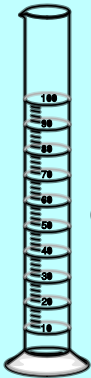


Chapter One

Data Management



Data Management: an effective way to collect, organize, represent, display and analyze data.

Ex: Sports, Medicine, farming, etc...



1.1 Variables and Relationships

Curriculum Outcomes	Related Activities	Page in Text
<ul style="list-style-type: none">gather data, plot the data using appropriate scales, and demonstrate an understanding of independent and dependent variables, domain, and range (pages 2, 3)	<ul style="list-style-type: none">identify the factors (variables) that interact to affect tree growth	2
	<ul style="list-style-type: none">identify independent and dependent variables in the relationships and discuss which variables can be controlled	3
<ul style="list-style-type: none">design and conduct experiments using statistical methods and scientific inquiry	<ul style="list-style-type: none">design and carry out experiments and organize data that demonstrates the effect of controlling all but one independent variable in an investigation	4
<ul style="list-style-type: none">solve problems by modeling real-world phenomena	<ul style="list-style-type: none">represent the relationship using a mind map	6

NOTES

Cause-and-effect relationships

- When a change to one variable causes a change in another variable.

Variables: any measured quantity that changes in an experiment or relationship.

There are three types of variables:

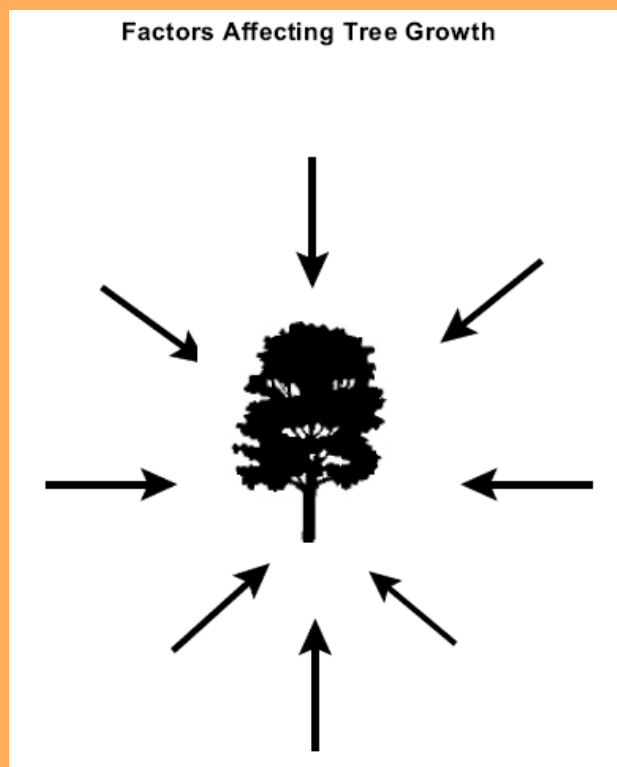
1) **independent variable**: a factor or factors that affect another factor in an experiment or relationship, it is the cause which affects an outcome. Ex: rainfall, vehicle traffic, etc.

2) **dependant variable**: is the factor that is affected by other factors in an experiment or relationship, it is the effect which occurs after particular factors are presented Ex: the amount of tree growth.

3) **controlled variable**: any independent variable whose value is held constant during an experiment.

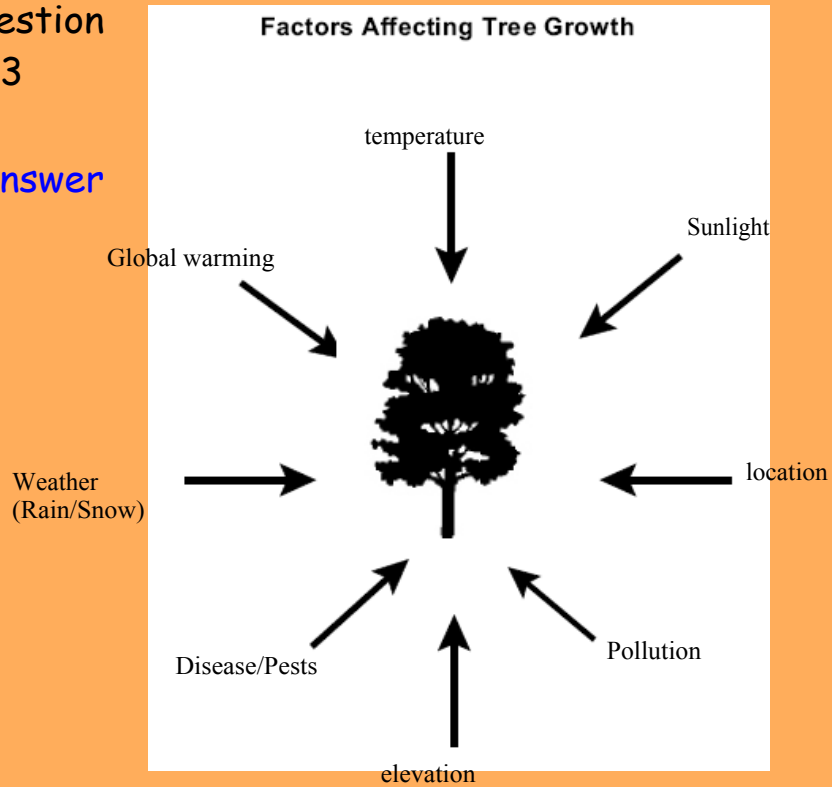
Example: Smoking and Lung Cancer

Focus Question
Page 3



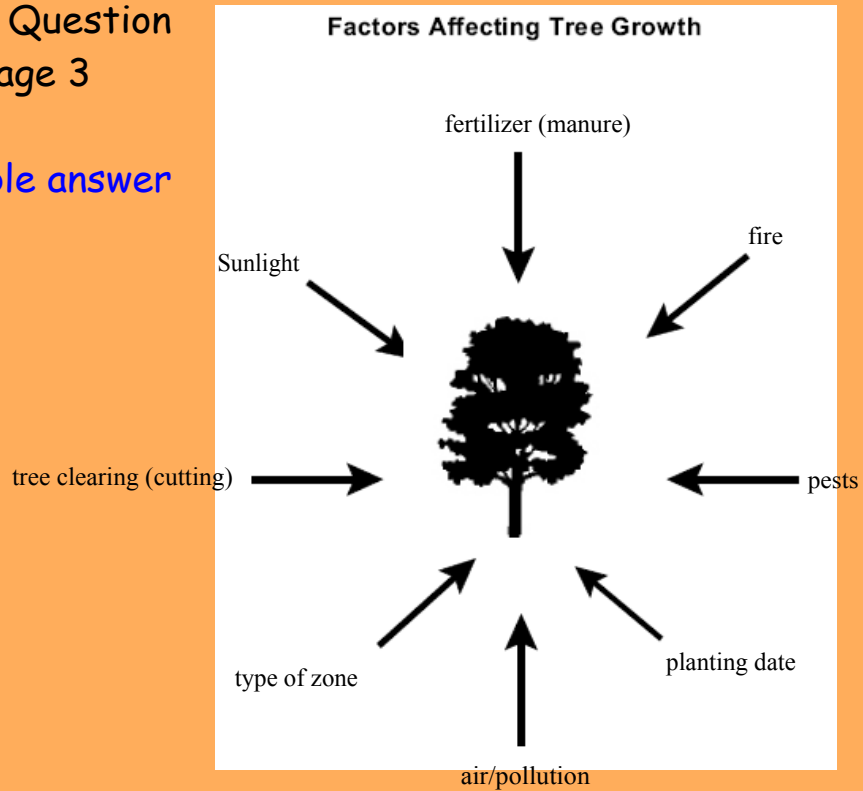
Focus Question
Page 3

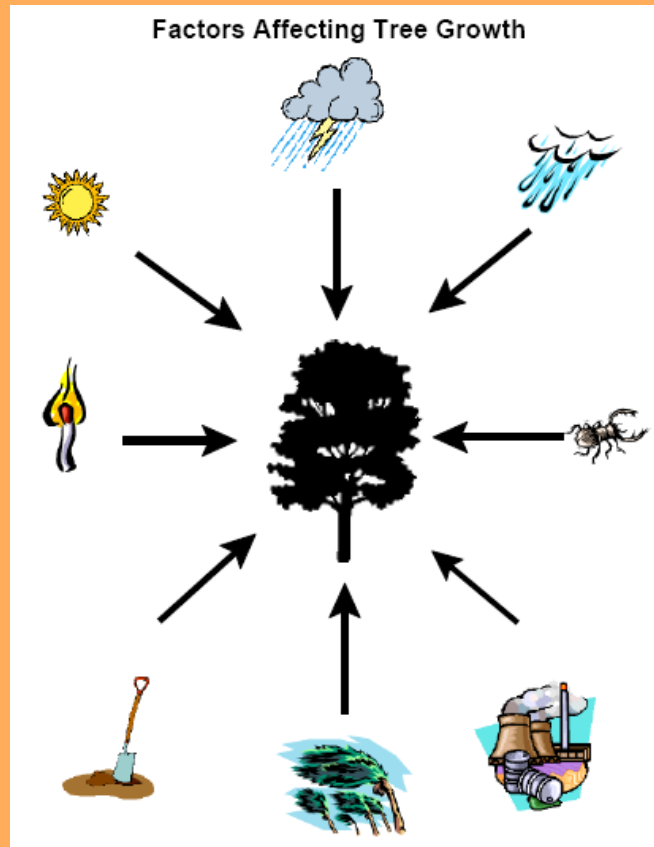
possible answer



Focus Question
Page 3

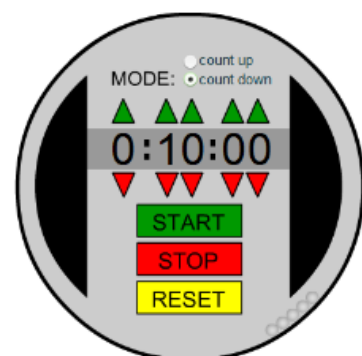
possible answer





Do Questions Page 3 #2,3

we will discuss these in 10 minutes
(if you finish early, read over Pg.4



Please take out your Homework:

Questions Page 3 #2,3

I will be coming around to check, so
please have it open at your desk.

2.a) Dependent variables might be (you should have only chose one):

- corn height
- number of corn cobs per stalk
- moisture content
- amount of money earned from corn sold

Independent variables might be:

- rainfall
- type of corn
- distance between rows

2.b) Examples: Distance between rows, type of corn planted

2.c) Example: For moisture content, if the farmer irrigated more, the corn might have a higher moisture content.

Question Page 3 #3

3.a) The distance jumped depends on other variables.

3. b) and c)

Factors influenced by the Designer	Factors influenced by the Skier	Factors Outside the influence of Anyone
<ul style="list-style-type: none">• Ramp length• Angle of ramp• Amount of artificial snow• platform that the skiers jump from	<ul style="list-style-type: none">• Style and make of the skis• Wax put on the skis• "push" they give at the end of the ramp• Position they hold going down the ramp	<ul style="list-style-type: none">• Wind speed and direction• Air temperature• Ice formed on the ramp• Snowfall

3.d) Factors such as ramp length affect the distance jumped but are independent of, or not affected by, the distance jumped.